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ABSTRACT

These four presentations to the 1983 Community College General Education Association conference address the theme, "Toward a New General Education: Work, Self, and Society." First, "General Education and Work: The Next Decade," by Philip M. Piaker, recounts efforts begun at Harpur College in the late 1940's to revise the general education curriculum, attesting to the difficulties encountered in organizing curricula in new ways and to the pedagogical constraints imposed by institutional interests. Next, "General Education and the Just Society," by Kevin Reilly, discusses the relationship between social justice and general education, providing an overview of differing perceptions of general education placed in the context of their creators' interests and ideology. Reilly views the job of general education as forcing students to confront real issues and make real decisions with knowledge, understanding, and sensitivity. "Technology in General Education," by John G. Truxal, argues that engineering and technology should be included in the general education core as technological understanding is integral to liberating models of learning. Finally, James E. McClellan, in "General Education and Personal Development, or Are There Any Redeeming Social Virtues in the Gen Ed Biz," urges those involved in the general education movement to take up a radical new agenda, addressing realms such as neo-Marxism, epistemology, and the philosophy of language as means of deepening the intellectual roots of the movement. (Author/AYC)

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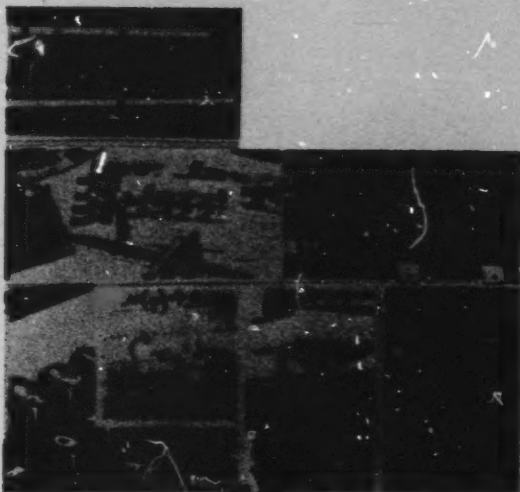
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PAPERS

from the Fourth Annual Conference

on

GENERAL EDUCATION



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P A P E R S

From the Fourth Annual Conference

ON

GENERAL EDUCATION

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PREFACE

The papers published herein were presented at the Fourth Annual Conference of the Community College General Education Association. The conference theme--"Toward a New General Education: Work, Self, and Society"--surveyed a broad landscape of human endeavor, from the practical to the technical to the social and intellectual.

Carnegie Foundation President and Conference Keynote, Ernest Boyer, highlighted some of the themes which he had explored previously in Quest for a Common Learning. Notable features of the now familiar discourse--recognition of the interconnectedness of knowledge and of the educator's consequent obligation to take curricular notice of that fact, and of the absolute necessity of paying sufficient heed to learning and to knowledge which binds us humans together--served admirably to focus subsequent thought and discussion.

Each of the participants, whether directly or implicitly, concretely or metaphorically, took up and extended aspects of the Boyer agenda having to do with the integration of experience, knowledge, and learning. The principal role of general education, it seems, is first to contain, then ameliorate, the social atomism which characterizes, some would say afflicts, our society. General education's aim must be to structure experience intelligibly and suffuse it with deeply humanistic meaning.

Recounting an earlier experiment with general education, Philip Piaker reminded us (gently) that our concerns, however earnest, were not new, and that the results of our efforts were likely to be ambiguous. His was a sobering testament both to the difficulties encountered in organizing curricula in novel ways, and to the pedagogical constraints posed by institutional interests. Nonetheless, Piaker's message was inspiring; he exhorted us to undertake and persist in efforts to turn education toward humanistic ends--and means.

Next came Kevin Reilly's account of the relationship between conceptions of social justice and general education, laced with the sort of skepticism which good historians bring to scholarly endeavors. What Reilly showed us is how lacking in agreement people have been about what exactly general

education is--or ought to be--and how bound up with interest and ideology traditional notions have been.

Reilly enjoined us to consider carefully what we ask our students to learn. Affirming his belief in the centrality of educational concerns aimed at helping students to become rational and competent adults, Reilly concluded by urging educators to find curricular space for normative inquiry, and to see that "the job of general education is to show (students) ... that some things do matter, even if they are bombarded constantly with things that don't."

Conceiving engineering and technology as distinctly human studies, Stony Brook's John Truxal argued convincingly for their inclusion in the general education core. A founding member of the Council on Understanding Technology in Human Affairs (CUTHA), and editor of its newsletter, *The Weaver*, Truxal sees technological understanding as integral to liberating models of learning. In short, a modern general education requires familiarity with some basic technological concepts and with the role of technology in the contemporary world. Truxal is hard at work helping us all to see how things--in the world and in our minds--are connected.

Analytic philosopher-turned-polemicist Jim McClellan called some of our general education pretties and practices to account. Whether in the guise of outcomes testing, prescribed curricula, or associationist learning models, McClellan finds an oppressive ideology to be implicated in schooling.

From regions seldom explored by us in the "general education biz"--neo-Marxism, epistemology, and philosophy of language--McClellan challenged us to take up a radical new curricular agenda.

Taken to heart, McClellan's concerns ought to propel the debate along some new and fruitful paths, help us put the movement's intellectual roots down deeper, and draw attention to previously neglected justificatory arguments for general education beliefs.

The problem-solving role of general education learning drew reinforcement from Sherry H. Penney, Vice-Chancellor for

Academic Programs, Policy and Planning, State University of New York. Dr. Penney affirmed the desirability of greater interdisciplinarity in the curriculum as a means of enhancing student understanding of the world and through that understanding, to make that world a better place.

This collection of papers will help us to recall what transpired at the 1983 conference. It is important that we regard our discourse on general education as continuous, and that we have some record of what we have been about. For those who have been with us from the beginning and to those whom we welcome to join us, may these papers inspire each of us to carry the dialogue forward.

George Higginbottom
Binghamton, New York

GENERAL EDUCATION AND WORK: THE NEXT DECADE

Philip M. Piaker

I am honored to be part of this important conference and this distinguished assembly of teachers and scholars. I am enthusiastic about the thrust of the topic assigned to me, and I am nostalgic because the issue I am asked to address is the very same one with which I began my career at SUNY in the 1950's. I am humbled by the recognition that an issue which first was manifested in the late 1940's remains a challenge to thoughtful academicians despite the excellent contributions of some of the leading educators of our time. Therefore, I have some trepidation because I know the path before me has already been trodden by giants.

Although my topic is prospective, it summons up reflection. Let me illuminate the issue by drawing on my early experiences with general education. SUNY Binghamton, or rather Harpur College which it then was, had come into existence in response to the demands for a college education by veterans of World War II. It is important to remember that these students were from families who in the pre-war depression years could not have financed higher education. The GI Bill of Rights changed all that, and young people enrolled in huge numbers seeking the upward mobility presumably offered by a higher education.

In the 1950's, the bulge of enrollments and easy job procurement was over, and Harpur like other new colleges sought to revise its curriculum to provide an education of more lasting value to the students. In my mind, the issues confronting our faculty then are analogous to those facing this faculty now and are germane to this conference.

Our faculty thought that the post-war explosion of knowledge made it difficult to teach what an educated person needed to know within the four years allotted to us. We thought that traditional learning had become fragmented and we feared that students were improperly perceiving the world of ideas from a compartmentalized point of view. This fear was

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lucidly expounded by C. P. Snow in his fine book on "Two Cultures." Snow thought that the humanist and the scientist had such little commonality between them that they could hardly communicate with each other in meaningful ways.

We thought we saw wide chasms forming not only between these two clusters of disciplines but between arts and science on the one hand and business study on the other. Within the liberal-arts too there were tensions and failures of communication between the social scientists and the natural scientists, between those who labored in the aesthetic disciplines of music and art and those for whom enchantment lay in the pleasures of language and literature. Even within the fine arts, there seemed little unity presented between those who created or performed and those who intellectualized. We thought using a generalized program approach instead of a discipline approach would narrow the distances between those groups.

I thought then, and I continue to believe now, that the very best students come to us with the talent to obtain a first-rate education no matter what approach we use. Despite the way we often isolate our disciplines from one another, our gifted students open their own doors and windows and thus draw their own connections. But many students do not easily integrate the smorgasbord into a pattern of inter-relationships. This failure often leads to frustrations and anomie.

After much debate in the 1950's, we set out to experiment with change. We sought unifying themes to which all entering freshmen would be exposed. Then after selecting concentrations and specializing in the sophomore and junior years, all students would return in the last semester to a general course which would provide a synthesis and re-integration from a higher level of the 4 year experience.

The Natural Science Faculty adopted Evolution as the theme around which it would build its general education approach. Communication was the choice for Humanities. We in the Social Sciences chose Personality, Work, and Community as our theme.

A French proverb reminds us that the more the world changes, the more it remains the same. I had a feeling of

deja vu when I noted that the theme of this conference which you independently chose is very close to the unifying theme our faculty selected those many years ago. I perceive that co-incidence to be a compliment to both of our faculties.

One of the tensions in every organization grows out of an urge to bring change and to experience new challenges, on the one hand, and a fear of change and mistrust of the consequences of change, on the other. Sometimes power relationships need to be re-ordered as new forms of expertise achieve recognition and status. These organizational dynamics are understandable and need to be considered when adopting new programs. However, such considerations by themselves cannot be permitted to stifle change.

Dr. Lawrence Leamer, an economist, was the first chairman of our Social Science General Education course. In a little while, he went on to new responsibilities and I was asked to head up the program. We had about 25 faculty drawn from History, Sociology, Anthropology, Political Science, Geography, Economics, and yes - ~~one~~ from Accounting. Each faculty led one 3 hour discussion session ~~for his~~ students. (I say "his" because, blushing!, there were then no female colleagues in that course.)

In addition, all students, en masse, attended a one hour lecture each week. Finally, we ran a two-hour weekly meeting for faculty in which we discussed the topics for that week. Each meeting was led by the faculty specialist in that week's topic.

The course ran for 2 semesters. Students read some 14 paper-back books selected by a committee of the faculty. The experience was a rousing success. There are professional people--physicians, attorneys, CPA's--practicing in our community today who still attest to the stimulating and broadening impact on ~~them~~ of this educational experience.

It educated ~~the~~ faculty as much as it did the ~~students~~. This effect was ~~one~~ of the great values of our general education programs, but also one reason why some faculty had apprehensions about it. But for those who came to the program gladly and did the extra work, there was a marvelous and rich unfolding of concepts and links and methods which stretched our minds and gave us a breadth beyond that which the graduate schools had provided.

Not all faculty were positive about the program. Some could never be convinced that an economist should be allowed to lead a discussion class on a book by a sociologist, or that a sociologist could really do justice to a work on political science. My feeling was that we faculty had to be role models. We could not expect the students to master this material at their level if we did not at our level, though we came to it from different disciplines.

Do not mistake me. I am not pretending that our faculty became--or that your faculty will turn into--universal social scientists, the like of which have not been seen since Elizabethan days. We didn't think we were making economists out of accountants or discovering the unified field theory of social science. Our goal was--as yours should be--very limited. We needed to learn the basic concepts and approaches in each of the six disciplines represented in the course material so that we could deal in a competent way with each of these disciplines and with the Gestalt which they formed. We thought it was better to have the same professor stay with his students through the semester than to have economists only deal with the economics section and sociologists only deal with the sociology portion.

Some of our colleagues eschewed this experience on the grounds that education in the hands of non-specialists is a fraud. Others were deeply immersed in research and taught advanced classes only, and hence were not available to us. The large majority who did participate developed a wonderful esprit de corps and a sense of being embarked on an exciting and very rewarding mission.

It is germane also to see why the program was ultimately discontinued, a decade later. Three developments led to the demise of the program. The expansion of the school multiplied the entering freshman class four or five fold with resulting pressure on enlarging class size. The small discussion groups, vital to general education, could not easily be maintained. Secondly, the College was moving into new status as a Graduate Center. With the role of University came a new need to emphasize research and publication. Faculty seeking tenure could no longer afford to invest time in acquiring breadth. The new structure demanded increased depth of knowledge and specialization in areas leading to funded research and publication. Finally, the new faculty being recruited

were understandably more interested in building graduate curricula and doctoral programs than in freshman social science. In this setting, there was little support for general education. Consequently, one of the great achievements of the old Herpur faculty slid into history.

These special factors do not affect you since your emphasis properly continues to be on teaching. However, there is a lesson in the history I've related for you, too. Unless the reward system makes it worthwhile for the faculty to invest the substantial time and effort for launching a general education approach, it will be difficult to sustain it. Of course, there is the reward of intellectual excitement and observed student growth. But organizational dynamics teach us we need structural support as well as psychic rewards.

I have been describing a past experiment even though the focus of my talk today is on the future. My thought is obvious: Past is prologue. Despite our advances in the technology of education, the essence of education remains in that special spark that leaps from teacher to student. The intellectual excitement which turns students on is hard to engender in a campus where the professors don't renew their sense of mission. Before we can strike sparks in our students we must first sparkle ourselves.

A campus achieves a certain ambience which sustains self-esteem when it periodically re-examines its roots, its goals, methods, and curriculum. The very process of embarking on deliberate change brings with it a cohesiveness and sense of intellectual adventure which elevates faculty and student morale. Of course, in all of this, I am assuming that change is adopted by consensus in a democratic process. Change legislated from above creates more friction than momentum, and more heat than light.

My point is that teaching now and teaching for the future is more than merely transferring the content of courses from the teacher's mind to the mind of the student. It most importantly also involves conveying certain sensibilities and attitudes to the student.

We can easily teach skills needed by a student for beginning a job. But to progress beyond the entry level, the student will need to acquire a certain kind of self-image

which facilitates life-long learning. Our job as educators is to help students develop a love for learning, and to come to feel about themselves that they have the capacity to learn. They must realize that learning is a life-time enterprise. For us to do less than that will not be adequate for the eighties.

I am arguing that besides the intrinsic benefits of general education for students, an important side-benefit is that faculty become better role models and more sensitive teachers in the process of making the transition. While general education does not necessarily provide specific business skills, the attitudinal change to which it contributes makes for a personality better prepared to be successful in business or the professions.

We want the student to feel that he or she is at a campus where enhancing the life of the mind is an important goal. There is enough research to support the view that when we expect a great deal of accomplishment and work from students, we receive it. Our experience tells us that students respond to the way we categorize them by fitting themselves into the category into which we have placed them. Knowing that, we need to message our students that we regard them as bright and competent and that we respect their ideas.

We need to bolster our general education program with honors courses, distinguished lecturer series, homecoming events with successful alumni, and all the other trappings to help students come to feel about themselves that they are in a first-class place and on their way to becoming well educated persons. I speak of feelings because as I've indicated, I have come to see that we educate emotionally as importantly as cerebrally.

What do we need in the eighties that is different from a prescription that would have been offered in the sixties or seventies? Not a great deal. The need for computer literacy of course has emerged dramatically and swiftly. The advent of the inexpensive but powerful micro-processor means that the drudgery of calculation and data retrieval is almost gone. We still need to understand the assumptions, concepts, meaning, and limits of the problems we are solving, but the process of solution has become almost automatic.

I shall not comment on the specific details of the ideal curriculum. There are trade-offs involved which are a function of the particular faculty strengths of a given time period. But it is clear that our students need an appreciation for the heritage of our past and the beauty of our language and literature and of our fine arts. They need to know how to reason logically and to express their conclusions cogently and coherently. They must learn to use quantitative tools, understand the economic model and the political and social forces at work, and perceive the presence of other worlds, other cultures and other great systems and great literatures beyond our borders. We need to deal with the natural sciences and with all sorts of practical things. Topics like business law, accounting, finance, and the behavior of security markets receive much attention in our leading newspapers. Can we omit them from a curriculum designed to produce educated people?

We can't do all of this in two years. But if we have motivated some students to continue on to a senior college and others to continue self-learning, then we have been eminently successful.

I have not spoken thus far of the values necessary to sustain us. In the final analysis, that is the most important part of our education. If our society and its framework of freedom is to survive, it can only be because its ethical base remains untarnished. Education by itself, wrenching as that admission is, does not preserve morality. Since this week marks the 40th anniversary of the revolt in the Warsaw Ghetto, it is appropriate to remember how, despite their great culture and high level of education, many in the German population of the time, including university people, supported the Nazis. Persons of the highest educational achievements rationalized or looked away from the devastation of ethical values, the destruction of Judaeo-Christian morals, and the obliteration of humanistic ideals. The acknowledgement that even educated people can behave monstrously helps us see the severity of the problem. We are challenged to help our students preserve the values of our culture without resorting ourselves to indoctrination or propagandizing.

We need to help our young people internalize the great ideas about liberty and freedom and human dignity which form the ideals of our culture. It is through free and open class

discussion that students make these ideas their very own. From Socrates to Mill, and from Adams through Orwell to Weisel, the thread of ideas ties them to us. Our students need to see how their own lives are bound up in the web of those ideas.

Even our corporations have recognized that their managers need to know more than only what is legal in their decision-making. Managers need to anticipate coming changes in the law by understanding the ethics of a situation. To this end, it is now commonplace for leading corporations to send executives to seminars in corporate conduct, morals and business ethics. Ethics helps curb the excesses of capitalism while preserving its extraordinary benefits.

It is the sense of ethics and values which matures cleverness into wisdom. It is our clever people who have polluted our air and water, turned carcinogens loose on us in our homes, and have provided medications which bring more harm than the ailments they are designed to cure.

The young people we are educating will have to understand enough to cope with such problems in their role as citizens participating in a democracy. Their values will need to rest on a strong foundation to withstand cynicism, indifference, and the lure of easy profit.

The ultimate challenge is that your young people face a problem my generation did not when we were in college. How can we continue to build mighty weapons without unleashing Armageddon?

The task of providing the most appropriate education for life and work in the eighties is in some ways beyond us. But if all we can do is to make a beginning--to point the way---then let us reap the delight of knowing that we have surely pointed in the right direction. An integrated curriculum with a strong value base which challenges students to think and to work very, very hard is, in my judgement, in the right direction.

GENERAL EDUCATION AND THE JUST SOCIETY

Kevin Reilly

When George Higginbottom called me last fall and asked me to speak at a conference on general education, my first thought was that he had the wrong number. I told him that I wasn't sure what general education was. I don't think I had ever used the two words together in my life. When I was a student in the early '60s and then a fledgling faculty member at the end of the decade, we spoke not of "general education" but "required courses," and we used the phrase pejoratively. We wanted them eliminated. I can still hear myself proclaiming "I don't want to teach any students who don't want to be here." Those were the days.

But George was not put off easily. He said he was using my book, The West and the World, in a general education course with that title, and it was like I had been told I had been speaking prose all along.

I realized that I had never used the term "general education" because I had never seriously considered any other kind. My attitude had been very much like that of the founders of Harvard College in 1636 who made no distinction between general education and professional education when they dedicated the College

to advance learning and perpetuate it to prosperity;
dreading to leave an illiterate ministry to the churches,
when our present ministers shall lie in the dust.

I realized that "general education" must have become a useful phrase when education ceased to be general, sometime after the founding of Harvard. Condorcet's use in 1792 seemed right.

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Never will a people enjoy a stable and assured liberty if instruction in the political sciences is not general, if it is not independent of all social institutions, if the enthusiasm aroused in the souls of the citizens is not guided by reason, if they are capable of being inspired by anything but truth ... if you do not prepare for them, by a general education the means of achieving a more perfect constitution, of making better laws, and of acquiring a more complete liberty.

Condorcet reminds us of the origins of "general education" in the democratic revolution of the 18th century. Both sides of the French Revolution are represented in that quote. There is the faith in mass education of the left, where "general" means for the entire people, i.e. "widespread." ("Never will a people enjoy a stable and assured liberty if instruction in the political sciences is not general.") But there is also the conservative hope of the "right" (in 1792 a broad spectrum) that education might tame the wilder enthusiasms of unreasonable souls: ("if the enthusiasm aroused in the souls of the citizens is not guided by reason, if they are capable of being inspired by anything but truth.")

"General education" became a category, then, when one confronted more than future ministers: when one imagined that the general populace might learn, or when one feared they were learning the wrong things. "General education" was a call for the education of the people and a call for their educated self-control.

The industrial revolution added another meaning to "general education." It distinguished general education from specialized education. John Stuart Mill (perhaps the last person to know everything) puts the matter succinctly:

For if the inexorable conditions of human life make it useless for one man to attempt to know more than one thing, what is to become of the human intellect as facts accumulate. In every generation, and now more rapidly than ever, the things which it is necessary that somebody should know are more and more multiplied. Every department of knowledge becomes so loaded with details, that one who endeavors to know it with minute accuracy, must confine himself to a smaller and smaller portion of the

whole extent: every science and art must be cut up into subdivisions, until each man's portion, the district which he thoroughly knows, bears about the same ratio to the whole range of human knowledge that the art of putting on a pin's head does to the field of human industry.

Here Mill distinguishes between general knowledge and specialized knowledge. The advance of science and the arts was making it ever difficult to keep up with the multiplying facts of one's own specialty, much less the general state of knowledge. This "inexorable" process threatened the human intellect itself. "What will soon be the worth of man," he asks, if he can only perform his infinitesimal specialty.

Experience proves that there is no one study or pursuit, which practiced to the exclusion of all others, does not narrow and pervert the mind; breeding in it a class of prejudices special to that pursuit, besides a general prejudice, common to all narrow specialities, against large views, from an incapacity to take in and appreciate the grounds of them. We should have to expect that human nature would be more and more dwarfed, and unfitted for great things, by its very proficiency in small ones.

In other words, specialization makes people narrow minded, proud of it, incapable of taking a broader view, and suspicious of those who do.

Mill's answer to the dilemma of an "inexorable" specialization that dwarfs human nature is typically balanced, "correct," evasive, and naive. (Mill was always more realistic in posing the problems of the age.) His answer was to do both.

Let us understand, then, that it should be our aim in learning, not merely to know the one thing which is our principal occupation, as well as it can be known, but to do this and also to know something of all the great subjects of human interest; taking care to know that something accurately, marking well the dividing line between what we know accurately and what we do not; and remembering that our object should be to obtain a true view of nature and life in their broad outline, and that it is idle to throw away time upon the details of

anything which is to form no part of the occupation of our practical energies.

This answer is an unsatisfying resolution of a boldly, yet subtly stated problem. After all, we cannot do both: that is precisely the problem. How do we mark well the dividing line between what we know and what we don't, unless our specialty is useless for the general picture.

But there is another, far more serious problem here. It is suggested by Mill's use of the word "occupation" here and his invidious comparison of specialized knowledge to the operations of the pin factory earlier. Mill is discussing a gentleman's problem. It is a problem for intellectuals whether they should know the specific or the general. In either case it is their occupation to know.

What about those for whom it is not their occupation to know? What about those who must put heads on pins? Here Mill's injunction that "it is idle to throw away time upon the details of anything which is to form no part of the occupation of our practical energies" divides general knowledge from practical skill, and separates mental and manual labor, or (in the context of industrial capitalism) the bourgeoisie from the working class.

Industrial capitalist society distinguished general education from specialized education, but it also distinguished general education from practical education. And practical education often meant job training, not education at all.

These were the cultural meanings of general education available at the start of the twentieth century when the movement commenced. As for Condorcet, general education might mean either democratic education or education in citizenship. As for Mill, it might mean the education of a generalist or the education of a gentleman.

The origins of a general education movement in twentieth century America are often attributed to the excesses of the elective system which replaced classical curriculum in American colleges at the end of the nineteenth century. While it is true that the elective system (associated with Charles W. Eliot after 1869 at Harvard) created a controversy over

general vs. specialized courses, it was not nearly as excessive as the current college supermarket of offerings.

The Yale College catalog might have increased its coverage of course offerings from 1 page in 1822 to 48 pages in 1899 and 62 pages in 1909, but the new courses in subjects like anthropology and physical education were electives reserved only for juniors and seniors. In 1899 at Yale the entire freshman year was prescribed. Sophomores were required to take 5 courses from a list of six. Even juniors and seniors were allowed only half of their courses to be electives. 10 years later (in 1909) the freshman at Yale could choose 5 courses from a list of 8 (economics, and anthropology had been added to the older list of history, English, math, a modern language, Latin, and Greek). Sophomores chose 5 of 15, and juniors and seniors chose only electives. This hardly sounds like "the license of unrestrained election and the intensive specialization" that it has sometimes been called.

The fact that such a moderate relaxation of requirements should call forth such a panicky fear of license (and it certainly did at the time), suggests a profound crisis of confidence. I think the reason for that crisis was the First World War. Columbia College's Contemporary Civilization Course got its start at the request of the War Department as a course in "War Aims" for the Student Army Training Corps. It was (like Condorcet's speech for the Committee on Public Education in the Spring that his Girondins tragically voted to go to war) a call to arms with words, a reason to fight, a defense of a heritage to defend.

"War Issues" was changed to "Peace Issues" after the war, and then to "Contemporary Civilization" in 1919. The goal of winning the war was replaced by the goal of winning the peace. It was described in the Columbia College Announcements of 1919-1920 as a study of the great issues of "the last century" intended "that men should understand the forces which are at work in the society of their own day." It was to give "the student, early in his college course, objective material on which to base his own judgments," and thus "be aided in an intelligent participation in the civilization of his own day."

The course that began for moral reasons (or what Randolph Bourne and others would have called immoral reasons) became a course in heritage and value information. It's general education was what I have characterized as Condorcet's meaning: teaching liberty, justice, or citizenship. The fact that it could change from soldier indoctrination to an open exploration of the world's problems points out the parameters of Condorcet's call.

One of the instructors, Harry Carman, has explained their reasons for switching from war issues to peace issues after the war in terms that suggest the consistent concern for teaching values (and in language that Condorcet could have used):

Increasingly, we came to the conclusion that the college should be a liberative institution in the sense that it frees the mind from ignorance, fear, prejudice, and superstition, and enables one to search for and contemplate truth. The college, we agreed, should be concerned with education for effective citizenship in a democratic society: citizens with broad perspective and a critical and constructive approach to life, who are concerned about values in terms of quality of character, motives, attitudes, and excellence of behavior; citizens who have the ability to think, to communicate, to make intelligent and wise judgments, to evaluate moral situations, and to work effectively to good ends with others.

I was asked to talk today about general education and justice, and now finally I may be ready to do that. I have looked at Condorcet and Mill because it has become clear to me that "justice" was by no means the only reason offered for general education. Condorcet was interested from the beginning in general education as a tool for creating a just, or democratic, or free society. He assumed that education could play such a role. Although we think of that as a typical Enlightenment idea, it was not shared by all of Condorcet's contemporaries. Remember that Rousseau won the Academy of Dijon prize in 1750 by arguing that the progress of science and the arts led to the corruption of morals, not to their improvement.

I think the modern fashion is closer to Rousseau than Condorcet. At least after logical positivism, Nazism and Hiroshima, it is not fashionable to argue that education can make individuals more moral, or society more just.

It has become more fashionable to argue for general education in Mill's terms than Condorcet's. We argue that our students should know general things as well as specific ones. The argument is for general knowledge rather than the knowledge that makes us better.

Now, we ask ourselves, can we even imagine what knowledge would make us better? Did knowledge help Albert Speer? Was it not the best and brightest who led us into Vietnam? On what basis do we assume that facts have anything to do with ethics?

We cannot! We cannot assume, as even John Stuart Mill's generation assumed, that ethics could be deduced from facts. There has been a philosophical and epistemological revolution since Mill's day which questions the certainty of facts as well as ethics, much less their correspondence.

Whether we refer to post Newtonian science, analytic philosophy, the sociology of knowledge, progressive education, or "modernism," the gist of twentieth century philosophy has been to deny the positivist assumptions of Mill and his generation. The twentieth century has discovered the role of the observer in every observation, the role of the knower in what is known, and the way in which explanations and conclusions (let alone ethical judgments) reflect interests, needs, social position, and experience rather than neat models of deduction and induction. Our truths are no longer absolute. We no longer believe that we can teach our students what is morally right. We cannot even believe that we teach them the information that they need know five years after graduation. The world changes too rapidly. Its standards and expectations wear worse than its fashions and fads.

In 1874 the Columbia College history faculty offered the following three (of six) questions on its "specimen" history exam:

1. Draw a parallel between the revolting customs of Mexico, and the barbarities practiced contemporaneously in the most polished countries of Europe. What one feature sunk the Aztec supersituation far below the Christian?

2. What is the supposed origin of the Bulgarians? When did they invade the Roman provinces? Give an account of the inroad of Zaberger in 559. Narrate the subsequent history of the Bulgarians.

3. Beginning at 100 B.C. briefly trace the history of the Netherlands to the foundation of the Dutch Republic in 1579.

Our ethics and our ideas of what one should know have changed (probably many times) since then. Proponents of general education can no longer prescribe the ethics one should have or even the knowledge that one should know.

The Columbia "Contemporary Civilization" experiment shifted from the moral goals of Condorcet to the generalist goals of John Stuart Mill sometime in its second generation. The early success of the course owed much to the sense of urgency about the "insistent problems, internal and international," which the talented faculty tackled in class discussions and in papers prepared for student reading.

Recalling the enthusiasm of writing papers that would genuinely aid students and instructors to think through the moral problems of the post-war world, Justus Buchler has written:

In those days, when you were requested to do a piece for C.C., you found yourself doing it; you couldn't resist, and anyhow, you had always wanted to do something like it--that's why you were collaborating in a new enterprise.

Mimeographed essays and then books (including John H. Randall's The Making of the Modern Mind) "both reflected and influenced a tendency," according to Buchler, "to delve farther into the past in quest of the meaning of the present." The Contemporary Civilization course was more than the ancestor of both general education and Western Civilization.

It was a laboratory of instructors and students who were writing, teaching and learning in order to develop historical understanding of the problems of their Western society, and the world.

Much of the energy of that enterprise continued in the classrooms, the weekly instructors' lunches, and the yearly dinners of instructors and student representatives after the Second World War. But by the 1940's the course had also become institutionalized to a degree that was not possible in the '20s and '30s. Textbooks of information and Columbia's own anthology of primary sources had replaced essay manuscripts that had circulated with the urgency of an East European underground. Gradually, but increasingly, Contemporary Civilization became a course in subject matter more than an historical inquiry into current problems. The Western Civilization texts that it spawned and used reflected that change. They were compendia of information, catalogs of a cultural heritage, annals of human achievement, not invitations to inquiry.

As the lessons of the twentieth century epistemological revolution took hold, the argument for general education had to adapt. If it could no longer be argued that general education was either ethical instruction or a recitation of a set body of information, it had to be defended on other grounds.

Modern epistemology and pedagogy provided the clue here. The twentieth century substituted models of knowing for models of knowledge. The process of knowing became more important than what was known (perhaps because what was known changed so quickly). General education thus became the teaching of how historians or chemists learned, rather than the information that they learned.

The catalog of the University of Chicago enunciated this shift in perhaps the second great wave of experiment in American general education. (This from the catalog of 1947).

The content of liberal education has been but one of the concerns of the college. A good college course must do more than provide a survey of the present state of knowledge. The body of that knowledge is not only vast but constantly changing. It is more important that a

college student should learn how knowledge is acquired and tested in any field than that he should memorize a body of currently accepted information. It is more important, for example, that a college student should learn what kinds of problems the physicist investigates, how he formulates them, and by what methods he seeks to solve them, than he should memorize a set of generally accepted facts or theories of physics. Knowledge worth the name must be more than a memory of facts and of favored interpretations of facts. It involves an understanding of the ways in which facts are acquired and the processes of reasoning by which they have been interpreted. All real knowledge includes a grasp of reasons. College education must, therefore, consist fundamentally of the examination of arguments and the practice of reasoning.

Daniel Bell put the matter similarly when he wrote;

The first major efforts at general education--those from the 1930s through the 1950s--was based on some notion of intellectual or philosophical unity of subjects or some common grounding in common subjects. The second revisionist effort (among which I count my own), was an effort to focus on unity of method....

I think the new emphasis on the methods of disciplines and on teaching students to think are an important element in the current agenda for general education. I tell my students all the time that I am interested in getting them to think historically rather than memorize a particular body of information about the past. I tell them that the purpose of my course and the others (more generally) should be to get them to think more critically, i.e. improve their ability to use information, weigh evidence, construct theories; that kind of thing.

I am sometimes embarrassed to argue for the role of world history in a general education on the grounds that it is just one of many disciplines that teach critical thinking, especially when my colleagues in other departments are suggesting that all students should take world history so that they know there was a French Revolution. I have difficulty insisting that everyone should know who Condorcet was until I'm willing

to insist that everyone should know about the "inroad of Zaberger in 559."

At the same time, I think it may be time to return to the moral goals that we abandoned in the 1920s and '30s. Certainly we cannot teach our students to be more moral. But what we can do is teach a respect for, an interest in, and an ability to think about, the issues of our time. We can teach our students, like those in the early years of the Columbia experiment, to seek (and create) a better world.

If the goal of general education is only to think more historically, or to think more critically, then it doesn't matter what students think about. So why not have them think about the most pressing issues that confront us, and them? Why not have them think about war and peace, the role of the U. S. in the world, capitalism and socialism, individuality in modern society, energy and the environment, sexism and racism?

Why not construct our general education courses around these concerns? Why not bring together our historians, sociologists, psychologists, and others to show students how they think about these problems and attempt to understand and solve them? Why not challenge our students to develop their own positions on these issues by arguing our own, arguing them not in ways that preclude debate--but in ways that open it.

Today's students are capable (to use Condorcet's phrase) of being inspired by many things other than truth. Colleges which equate 3 credits in Marketing with 3 credits in Ethics reflect a society that equates 90 seconds for Buick with 90 seconds from Beirut. The job of general education is to show them that the pitch is not the same as the principle, the image not the idea, that some things do matter, even if they are bombarded constantly with things that don't.

In short, the job of general education is to force students to confront real issues and make real decisions, with knowledge, understanding and sensitivity, in the interests of making their own lives and their world freer, richer, and more just.

TECHNOLOGY IN GENERAL EDUCATION

John G. Truxal

As teachers, we continually worry about how to motivate students. We work on the premise that an excited student anxious to learn will succeed. Consequently, we are always looking for examples and work assignments matched to the students' backgrounds and their perceived interests.

I am now teaching a communications engineering course designed for upper-division liberal arts students. There are 510 students in two sections, so almost 25% of Stony Brook's students elect this course in one of their last two years. I asked the students to indicate anonymously how much money they have invested in hi-fi audio equipment. These are students in many cases at a state, rather than a private university because of the lower costs; a significant fraction are earning large portions of their college expenses. Yet 20% of the class estimated they had at least \$2,000 worth of audio equipment.

Student interest in technology encompasses cars, television, radio, word processors, computer games, and so on. Like older Americans, students are generally fascinated by modern technology; indeed, public enthusiasm drives technological change. Once we have microwave ovens, we want them microprocessor controlled. This love of technology carries into ridiculous uses--the voice-controlled device to change TV channels merely by talking to the set from across the room, or the foot-pedal-controlled motor to rotate a man's tie rack in the closet to bring the tie of his choice to the front. (Second-semester seniors, involved in job interviews, are familiar with neckties.)

My argument is simple. Living in a technological age, let's use that technology as a motivational vehicle for general education. During the last eight years, our group at Stony Brook has been deeply involved with the development of education materials to entice more minority students to follow

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a strong academic program in high school. We have prepared curricular materials on technology for use in math, science, and English courses in grades 8-10. To our surprise, some of the greatest enthusiasm came from English teachers--partly because the curriculum there is less rigidly scheduled, but also because some students responded positively to the opportunity to read and write about technology.

FULLER JUSTIFICATION FOR TECHNOLOGY

While motivation is provided through the joy and satisfaction of learning technology, inclusion of this topic as an important element of a liberal education requires better justification. We believe there are four reasons why every college student should have at least one course in technology.

(1) The concepts underlying modern technology are crucial for the educated person. Here we include such items as probabilistic descriptions, modeling, algorithmic reasoning, optimization, feedback, and stability--all concepts which have arisen in engineering and which now pervade intellectual activity in many disciplines.

(2) Technology is the area which brings together knowledge in the different disciplines. Technology starts from the application of science; in developing a new device, the engineer must carefully match the technology to the physiological and psychological characteristics of the human user, must consider economic, social, and political implications, and in addition must base the ultimate design on humanistic considerations and values. Technology cannot be studied in a disciplinary format.

(3) We assign to education the responsibility to prepare the individual to live and work in the environment of today and the near future. Certainly the deep student interest in courses in technology (evidenced by response at such universities as Penn, Yale, Brown, Princeton, Wisconsin, and UCLA) arise partly from their perception that most careers require familiarity with modern technology. As automation steadily pervades both manufacturing and service industries, the career importance of Information Age technology grows steadily.

(4) Finally, citizen participation in governmental decisions depends on public understanding of the issues, which are more and more centered in technology.

TELEVISION EXAMPLE

To illustrate that technology can be taught to general, college students, we turn to one segment of the Stony Brook communications course mentioned earlier: the two weeks devoted to television. This topic follows an extensive discussion of the spectra of signals (the frequency components of voice signals, computer-generated speech, and audio technology). We have also discussed digital signals (e.g., through super-market automation bar codes for laser checkout, and digital audio) and the measurement of the amount of information in a signal in bits/seconds.

In the TV section, we first consider the structure of the TV picture: 525 lines, with 625 dots making up each line. Each of the 330,000 (525×625) dots is transmitted as a pulse in which the amplitude carries the brightness information. How was this structure chosen?

(1) 30 pictures a second are sent to ensure that the motion looks smooth.

(2) Lines are interlaced (lines 1, 3, 5, ... first, then 2, 4, 6 ...) so that the picture seems to be recreated 60 times/second to avoid the viewer seeing flicker.

(3) 525 lines are chosen so the viewer sitting at a normal distance cannot see the granularity of the picture.

(4) An aspect ratio (width/height of the picture) of 4/3 was chosen so the early stations could show existing movies--strictly an economic factor.

(5) Color is added by superimposing three pictures--red, green, and blue, the primary colors corresponding to the different cones of the human eye.

These items emphasize the constraints which govern design of technology.

We next consider directions in which television technology is evolving:

(a) Cable TV, with the potential for 100 channels and interactive capabilities, with the threat this poses for invasion of privacy and the problem of what to put on so many channels within economic constraints

(b) Teletext capabilities, illustrated by the measure of the amount of information which could be carried by the TV signal.

(c) Video discs, with future recording capability, and the tie-in with personal computers.

(d) Direct broadcast satellites, and the feasibility of picture quality equivalent to that of commercial movies.

In the course of this material, we pose such simple questions as

Where did channel 1 go?

Why do New York and Los Angeles have only channels 2, 4, 5, 7, 9, 11, 13?

How far do TV signals reach from the broadcasting antenna (i.e., what is "line of sight")?

Why are brown, gold, and silver colors not obtainable?

Why are cyan, magenta, and yellow the primary colors for paints?

In other words, the course includes an overt attempt to convince the students to look around, to apply their new knowledge toward a better understanding of the technological environment they regularly encounter. The "hidden agenda" for the course is to convince the students that learning technology is possible and is fun.

GENERAL EDUCATION AND PERSONAL DEVELOPMENT, or
ARE THERE ANY REDEEMING SOCIAL VIRTUES IN THE GEN ED BIZ?

James E. McClellan

"Wie Schiffer sind wir, die ihr Schiff auf offener See umbauen müssen, ohne es jemals in einem Dock zerlegen und aus besten Bestandteilen neu errichten zu können." I venture a rough translation of those words of Otto Neurath, for there are few among us, I'm sure, whose mastery of German could penetrate my mispronunciation of same. "We are like seamen who must rebuild their ship on the open sea, never being able to lay up in drydock, lacking the best materials from which to build anew."

There must be tens of thousands of philosophy students whose eyes have encountered Neurath's words on the frontispiece of W.V.O. Quine's Word and Object. How many read it or, failing German, had it read to them? What went through their heads? Some may have pondered the appositive of the image, knowing that Neurath was a politically active Marxist, while Quine was and is a devout Republican whose revolutionary philosophical theories have not prevented his enlistment in "Scholars for Nixon" and similar campaigns. Some may have seen a lot of war movies or even served in the Navy and pondered the image itself, catching mental pictures of damage control crews shoring up bulkheads and jury rigging rudders. English majors who read Quine, perhaps while studying linguistics, may have noticed that Neurath did not draw image and subject too tightly together; it's only a simile even with the "sind wir" inversion.

But for the text of today's sermon I want us to do what I fear too few philosophy students ever do: let us draw ourselves into that image as deeply as we can. I want us to feel the truth in the metaphor: our ship, the society that supports us is cast loose on the open sea of historical change, Our ship-of-state is coming apart at the seams; if we are to survive we must rebuild it under just the disabilities Neurath saw. How does it look for the future when we look at ourselves inside that image?

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I direct my remarks today toward an assessment of our collective destiny, our collective obligation, as members of the General Education Business of America. How do we fit into Neurath's image of the crippled ship on the open sea? Before we particularize, however, I propose that we see how far we may stretch Neurath's "wir." Who is the "we" who must rebuild the ship?

In its most general application "we" refers, I would insist, to all the organic matter aboard Spaceship Earth. The whole evolutionary process is being altered by one damned malignant species; if present dangers become real events, thermo-nuclear induced radiation may bring on irreversible environmental degradation, a reversal of the secular tendency toward complexity in natural selection, the same tendency that produced our monstrous brain, the most complex physical structure in the known universe.

But only that same accursed species can actually do anything about the condition of the organic environment, thus members of only one species may have personal or collective obligation based on an envisioned future. So let's drop "we" back to just us machines built on codes coming from gene pool Homo sapiens. We are all in the same ship, though by no means are we all in the same boat. We all want the ship rebuilt so that it can be steered away from the disaster of nuclear war, a virtual certainty if its present drift is not brought under conscious control. We all want to achieve a relation to the non-human environment such that long-term, stable matter-energy exchanges can supply the material based for a healthy, self-fulfilling human life for all God's children. If we are to achieve those most general desires, we human beings must set about rebuilding "The Modern World-System" (as publications of the Economy of the World-System Section of the American Sociological Association refer to the global productive network that supports all of us).

Trouble is that we human beings, collectively speaking, do not possess adequate political tools for rebuilding the global system as such. If any personal obligation is to follow from "we must rebuild," then "we" is restricted to those collectivities that do possess adequate means for the task; pre-eminent among such collectivities are "We the People of these United States" who formed a nation from popular revolution and stabilized it in our lovely, rational

eighteenth-century Constitution. That Constitution, God bless its Founders! does provide mechanisms for steering, and organization useful in rebuilding, our American ship of state. To will the end is to will the means: if we are to survive, We the people of the United States must capture the organs of state through Constitutional processes, and then use state power to mobilize the People so that all together we may go about the historical task, agreed to by all political parties, that of "rebuilding America."

So that's what "We the People" must do. But what specific role in the drama called "Rebuilding America" falls to the particular "we" who constitute the Gen Ed Biz of this country? Having trained in, professed, and practiced the discipline of academic philosophy in professional schools and colleges of education as my sole professional career, I regard myself as devoted 100 percent to the cause of general education. As a member of a general education department that has dropped from fifteen members to six in the ten years I've been at SUNY/Albany, I am quite aware of the difficult straits we find ourselves in today. (I might feel personally responsible for the decline in our department, if I had not found that foundation departments report similar trends in schools of education all over the country.) So when I address today's sermon to the denizens of the Gen Ed Biz, I most assuredly include myself. In this respect, we all are in the same boat, whether it be in the Community College or the School of Education that we ply our oar.

The trick, of course, is in keeping these different levels of "we's" to which we all belong in harmony. If we of the Gen Ed Biz are to play an honorable role in the immense historical drama now unfolding in the last decades of the twentieth century, we must be true to our more fundamental commitments as citizens of these United States, as exemplars of Homo sapiens, certainly as creatures of a threatened evolutionary process, perhaps as creatures of a Personal God.

It is easier to illustrate than to define honorable performance in the drama of history. Consider a case roughly parallel to our own. If some historian of America between WW II and WW III (or, with the help of God, real peace) should ask: "But what happened to the General Education Movement while all that was going on?" will there be a record to point

to better than our counterparts' in Germany between WW I and WW II?

Certainly the Liberal Arts tradition of the great universities was a far stronger force in pre-WW II German society than the General Education Movement is or is likely to become in our society; true also that the German Mandarin tradition of liberal arts did not extend to their post-elementary technical training institutions, which, at their apex, correspond roughly to our community colleges today. The analogy is inexact, but the indictment still holds: their training in the liberal arts posed little or no barrier between graduates of German gymnasias and their assigned duties in rebuilding Germany on Hitler's blueprint. There are many notable exceptions, of course, tales of quiet heroism by men and women whose human compassion had been deepened and extended--even to Jews!--by their immersion in the classical literature of Western Civilization; stories of others whose devotion to the ideals of science--publicity and freedom of inquiry, subjection of theory to data, rigor and clarity of expression--made them implacable and effective foes of the Nazis. But you're now talking about scores out of millions; the Liberal Arts in Germany did not offer honorable resistance to the Nazis, as the latter rebuilt Germany as a battleship and steered it straight to WW II.

There are forces in America today pushing us toward rebuilding America as a launching vessel for the missiles of WW III. The young men and women whose lives and minds we are allowed to touch so fleetingly come into our classrooms with the Constitutional power to rebuild America as a nation of peace and productivity. If they leave our classes recognizing that someone has tried to help them find the will and understanding to exercise that power, then we have played our part honorably, whatever turns up in the climax of the drama now unfolding. If the oncoming generation actually gain the necessary will and theoretical clarity, and with those victory over forces now steering the country toward war, then we will have witnessed a miracle and receive no special credit. But we must accept a very personal obligation when we think of what our students must learn if our democratic ship-of-state is going to make it through the approaching storms. If not in General Education, then where will they get the will and savvy to make it go?

So much is fairly easy to say. (Not all that easy, I hope, for I do enjoy an occasional honorarium for saying just such things.) But among ourselves I think it important to dig a bit deeper; let us leave the language of Neurath's image to seek the most literal description possible of our role in this world crisis. Notice, please, that 'literal' is relative to theory: epicycles are literal in Ptolemaic astronomy, metaphorical approximations in Copernican. As the example shows, not all theories are equal in science. Superior theories fit into ever larger logical-mathematical webs that help us explain ever larger ranges of phenomena. Even in the best theories, fits are never exactly exact; the whole web changes shape and structure occasionally, as various sciences, as well as the societies supporting them, undergo revolution. That entire, constantly-evolving entity--a social as well as a logical-mathematical structure--Prof. Quine calls our theory of the world; it was that theory that Prof. Quine had in mind, I'm certain, as the analogue to Neurath's ship that must be rebuilt on the open sea.

The question now becomes: when we want to translate out of metaphor into literal language to talk about our role in the drama called "Re-Building America," into the terms of what social theory shall we translate? The answer should not be surprising in the light of what's gone before: into the language of that social theory best fitting with the rest of our scientific theory of the world. It should not even surprise you that the social theory best satisfying that criterion is orthodox Marxism-Leninism, shorn of its nineteenth century Hegelian metaphysics, of the anti-religious accretions picked up in the struggle against the Tsar's Orthodox Church in Russia, and of other irrelevancies. That, at any rate, is the argument I advance in a recent NSSE Yearbook, an argument that ends "Suppose we find ... that the theories we in fact follow in our educational practice cannot be reconciled with our scientific theory of the world. What do we do then? ... The correct answer ... is to organize with the working class to seize the means of production and smash the capitalist state."

If the argument that led to it is valid, then that conclusion is not mere propaganda, rhetoric, eye-wash ... It is rather, at this stage of our scientific development, the most literal description possible of the tasks we must undertake if we are to play honorably the role history assigns

us. Granted: it requires a more fundamental Gestalt shift to take those injunctions as literally applicable to oneself than to change, say, duck image to rabbit image in the familiar optical illusion. It takes time and research to fit in the multitude of technical details (What, exactly, is "the working class"? (JEM, 1980)) that go with that theoretical shift. This is not, I take it, a Marxist research conference, nor will I bore you with such details. Let us assume for the moment that the technical problems can be solved; the question remains: Why go to all the trouble it takes to work through such a complex, theoretical understanding of ourselves and our condition?

Most simply, the point of affecting that profound Gestalt shift for yourself is that an awful lot of things that were formerly unrelated elements in the background suddenly take their places on a universe-scale theoretical grid, and you see yourself-in-relation-to-others with a clarity and conviction formerly lacking in your picture of the world. The same may be said, of course, of any orthodox religious world view. That's fine. Our scientific theory of the world stops where things no longer obey the laws of physics and logic. If you have a vision of things that is broader than that (perhaps based on personal experiences that you can't fit into physics), may it bring you wisdom and peace. If that broader view also awakens the fires of human compassion in you, then we may join together in class struggle, i.e., the struggle to rebuild America as a peaceful, productive nation.

Religious activists and Marxist atheists join hands to oppose the life destructive forces that have brought this planet to the brink of thermonuclear holocaust; we stand together on a ground more fundamental than the monetary profits of the international capitalist class, thinly disguised behind "the national interests of the United States."

(In many revolutionary movements, particularly in Latin America, Christians and Communists have found it instructive to compare and align competing conceptions of the common ground supporting their resistance to imperialism--once they learned that competing conceptions can co-exist in political harmony.)

Let us now bring the "we" down to the present assembly. What happens to our conceptions of general education when we look at things through the lens of a scientific social theory? As you might suspect, some things change character dramatically. For example, consider how we are to apply the techniques of performance-based instruction ("competency-based education," (W. M. & S. 1981, p. 7)) to our actual goals of promoting the personal development of individual students.

Logically, performance based evaluation techniques cannot be used in such instruction. Why not? Look, if general education for personal development is taken seriously it must mean at least this: we try to make sure that each student comes to see the personal drama of her or his own life--with its beginning, middle, and end--as textually interwoven with the immense physical, evolutionary, historical drama now being played out on the global stage. The WW II generation of American students understood intuitively that close textual interweaving of personal drama and history; children of the 'sixties felt it strongly, however unscientific their way of explaining their new grasp of self and society. Today's generation is dealing with a vastly more complex and contradictory world picture; they have been subjected to so many years of pure noise that they've rightly become privatized. They suffer severe cognitive deprivation, lacking any conceptual scheme for relating themselves to the tangle of historical fact and sociological jargon they've alternately picked up and dropped in their progress through courses and examinations.

Now, insofar as our efforts in general education are directed toward helping each student establish a truly personal relation to history, we cannot claim that any specific overt response indicates success nor its absence failure in those efforts. We may provide any stimulus we please to "measure" a student's "gain" on, let us say, "cognitive-affective-psychological relatedness to history." But, we have in principle no way of knowing how to score the response we get. If that response actually comes from a newly-found relation between the student's personal drama and world events, it can be literally anything. Such a response will necessarily be unique, idiosyncratic; the idea of a scale on which to weight it is contemporary psychology's version of the eighteenth century search for a perpetual motion machine: the very scientific principles which would have to be applied

in the construction of the device preclude its possibility. It's that simple.

On the precise point at issue here, a new case for the Liberal Arts puts it this way:

"In principle, the ideals and goals of liberal education could be expressed as a series of competencies or performance tests. Although the criteria of success ... might seem subjective ("Write an essay on topic X that will be judged 'well written' by Prof. Y"), they cannot logically be dismissed on that count."

Correct, the criteria cannot be dismissed on that count but they can be dismissed on a more important count: they don't apply to the goal sought. A reasonably capable computer can be programmed to print out an essay that Professor Y will judge 'well written.' But only a human being can make the personal response: "Here, Professor Y, is a brief summary on Topic X. There are more important uses for my life right now than preparing an essay that you will judge 'well written.'" If personal development rather than training is our goal, the latter response may (or may not) be evidence that we have succeeded. Likewise, the well-written essay, however conclusive in regard to skill development, may or may not be evidence of personal development. It depends on how any particular response is generated.

Let me explain. We present a stimulus,

S : Prepare an essay on Topic X to two persons, P-1 and P-2. We observe two responses,

R-1 : handing in essay judged 'well written' by Y

R-2 : handing in hasty notes with statement 'better uses for life'

Now you can easily imagine scenarios in which R-1 would count as evidence ("criteria" is too strong here) for personal development in P-1, as evidence against positive, progressive personal growth in P-2. Likewise for R-2. You would have to know P-1 and P-2 at a deeper level than this little test will measure before you could interpret the response.

Psychologists of the McClelland ilk are undeterred by that argument, for they can always pull out a sequence of other little tests to measure outcomes at any level we want to talk about--or so they claim. But I want to talk about that level of personal development at which we can question, criticize, consciously monitor our responses to the whole system of authority--surveillance--power--control literally embodied in the institutional act of administering and taking tests. Responses that are filtered through a class-conscious understanding of testing as such cease to be evidence of any sort for the trait, whatever it was, that the psychologist was trying to measure. And so for years I went around preaching against wasting our time on performance-based instruction and evaluation in general education.

But when you start looking at the larger world scene from the class struggle perspective, then things look quite different. Psychologists like McClelland are class enemies; no argument, however sound philosophically, is going to inhibit their behaving like class enemies. When we achieve power, we will alter the prevailing system of incentives such that they will become fast and reliable friends of the working class. In the meantime, is there any progressive use to which their statistically sophisticated but humanly stupid instruments can be turned?

Many of you may be way ahead of me here, already carrying out the strategy I'm about to endorse. It goes like this: our identity as general education depends on maintaining a dynamic balance between our practice and vocational education. Today, in response to various social forces (all quite apparent in the light of a class struggle analysis) vocational education's share of time, money, and talent is increasing and, if this high-tech literacy campaign goes far enough, they could end up with all of it. And if that happens, how is the next generation to acquire the political will and savvy essential to the preservation of American democracy?

We shouldn't leave that question in the rhetorical mode, for we need many avenues besides general education classes to reach the minds and hearts of youth, particularly working class youth. But for today let us consider our own students, a select population, whom we in the Gen Ed Biz can assist significantly in their quest for a critical, self-conscious, soul-satisfying, personal relation to history. We can, if we are given the resources to do so. But if we go out and ask

for money for that purpose, we will be turned down. No administrator wants to fund a program the results of which in principle, cannot be evaluated by standard measures. They can't be evaluated because they can't be predicted; the brand of historical consciousness that comes with personal development may very well turn out to be Marxist; it's spreading wide and deep in academic circles. When we are scrambling to hold on to a Gen Ed component in professional training, we had better offer something other than personal development, in that radical sense, as the objective we're trying to achieve.

There is a growing body of educational literature, a lot of it originating in this association, describing how various general education programs, particularly in community colleges, have responded to the challenge of these times. These efforts take on special poignancy when seen from a class struggle perspective. As Milton Richards of Mohawk Valley Community College wrote: "one of the broader aims of general education is to provide students with some of the intellectual wherewithal to achieve social mobility." (Common Knowledge II, 1. p. 3). But if a community college program puts enough emphasis on general education to achieve that aim in any significant degree, it will be at the expense of the technical training component required for entry-level employment. If that is not poignant enough for you, please recall that from a class struggle perspective, the task of general education goes far beyond mere wherewithal for social mobility; it requires development of the kind of person who can relate the personal struggle for mobility to the larger social struggle for a thorough rebuilding of the entire social class system.

You don't have to be a cynic to recognize that we're not going to get the resources to accomplish that political objective if we say that that is our objective. But what, then, is a political realist to do? With all the humility I can muster, let me imagine myself Dean of Gen Ed at XYCC and propose a strategy for consideration by our Administrative Council. It has four points:

1st. Technologize the Curriculum! There are tests galore to measure skills that we can teach, specifically problem-solving skills, critical thinking skills, evaluation skills, communications skills, "technical literacy" skills. We want to make sure that everyone takes acquiring those

skills and the tests measuring them very seriously. We help get such tests into the batteries fired by guidance counselors, admissions officers and personnel directors at applicants for the goodies those gate-keepers guard. In brief, instead of struggling against psychologists of the David C. McClelland variety, we join with them in a campaign to sell general education skills and tests to measure them. There ought to be a market for high performers on such tests, and we ought to be able to produce a superior product, "we" being those who practice Gen Ed from a class struggle perspective.

2nd. Collectivize, Humanize Instruction! Let us take a real case. The Winter, McClelland, Steward team has constructed an ingenious Test of Thematic Analysis which confronts subjects with situations and asks for stories, which are scored by maturity, i.e. on a scale between college freshmen and seniors, the latter having been subjected to liberal arts education. (Examinations for graduation from schools of rhetoric in Hellenistic times also required supplying stories to explain and complete fanciful situations set by the examiners. The results are burlesqued in the Satyricon by Petronius.) Now if we try to teach, say, English composition by standard techniques and hope that students will learn generalizable skills that will show up on scores on the TTA, we will be playing their stupid game. We would find that our students array themselves on the TTA in a normal curve very like that of other curves--I.Q., Income, Class, Nationality, etc.

Instead, we teach the tests, the McBer tests, ACT (Comp) tests, ETS's evolving critical thinking tests, whatever the market is buying. Believe one who has studied efforts to improve test scores: if that effort is to succeed, it must become the prime curricular objective.

But we here at XYCC can take the interpersonal competition out of the game. Each Gen Ed class can be organized to improve the scores of every individual member of the group. The little clues and gimmicks every successful test taker learns can become resources for all. As we make the work collective, as we really teach the principles and skills of group process (which can happen only if there be real pay-off for effective processes), we are accomplishing our objectives behind a smoke screen of social conformity.

3rd: Consciencitize the Objective Situation! I use Paulo Freire's word to refer to the process by which those subject to oppression may bring that oppressive reality to the forefront of consciousness without being immobilized by consequent despair and alienation. Our students are accustomed to a system of social control that subjects them periodically to the disgrace of competing for spots on a norm-based curve. The moment a student first sees that system--and her/himself so insignificant and impotent within it--is typically a moment of panic and isolation. We must be right there, right then, bringing to the understanding of the situation all the pedagogical skill and academic insight our study and practice have given us. Don't be surprised if you find yourself the object of the destructive passions that liberation lets loose. So be it; as the fitness fanatics say so forcefully, if it doesn't hurt, it's doing no good.

4th: Organize the Alienation! Look, if we follow the strategy I'm suggesting we are living duplicitously within the system, diverting its political effects from those desired by its patrons. If we're to succeed, we must make our program pay for itself in the same currency we're paid; if we can't play the capitalist's game better than others, then our social theory isn't all it's cracked up to be. (I forgot to mention that a clear majority of XYCC's Gen Ed faculty accept a scientific, class-struggle social theory. The often raucous but loyal dissenters contribute insightful hypotheses for applications of the theory with their insistent "But what if ...?" questions. We recognize that there are agents among us who will report all our discussion to our class enemies, so we use academese, "now if we held to such a view, God forbid! what would follow?" Got the picture at XYCC?) But how are we to beat the system and its often unwitting supporters? By better organization, clearer perceptions of goals; operationally, by organizing our instruction around our tests, bringing in our academic training to enrich and extend the hidden curriculum, overcoming departmental boundaries, liberating the creativity we've learned to call the "Hawthorn Effect."

In sum, I see three objectives for our Gen Ed work: (i) to provide our students with marketable skills and scores that will enhance the attractiveness of the labor power they must sell to earn their keep, (ii) to provide ourselves with a stable market for our labor power as Gen Ed teachers,

(iii) to provide the nation a generation of students who have the will and savvy to turn this country from its present drift toward war and Fascism, to re-direct our historical course toward peace and productivity.

If we hold ourselves together and implement those four points, we shall have done our duty. Also, we shall have worked a lot harder than already overworked Gen Ed teachers in community colleges across the country--and for no more money. That that outcome makes the Dean of General Education look good to the President and Board of Trustees is no loss either. The only revolutionary you can trust is one whose self-interest is unconcealed.

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